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5.7 Pagel's Pit, Rockford, Illinois—05IL038

5.7.1 List of Commenters

- NPL-U2-3-10 Ridgway M. Hall, Jr., Crowell & Moring
(Representing William Charles Ltd. and Winnebago
Reclamation Service, Inc. of Loves Park,
Illinois). 10/19/84.
- NPL-U2-3-49 Ridgway M. Hall, Jr., Crowell & Moring
(Representing William Charles Ltd. and Winnebago
Reclamation Service, Inc. of Loves Park,
Illinois). 10/22/84.
- NPL-U2-3-405 Ridgway M. Hall, Jr.; Crowell & Moring. 10/22/84.
- NPL-U2-3-502 Ridgway M. Hall, Jr., Crowell & Moring (Counsel
for Winnebago Reclamation Service, Inc.).
12/6/84.
- NPL-U2-3-552 Ridgway M. Hall, Jr., Crowell & Moring (Comments
of Winnebago Reclamation Service, Inc.).
12/14/84.
- NPL-U2-3-578 Elizanne Lewis, President, League of Women Voters
of Rockford, and Betty Johnson, Chair of
Hazardous Waste, Commission of Solid Waste Task
Force. 12/12/84.

5.7.2 Summary of Comments and Response

The commenters opposed the listing of Pagel's Pit. Four of Mr. Hall's comments were requestes for a 60 day extension to the comment period to allow Warzyn Engineering, Inc., to conduct a comprehensive ground water study and submit written results of their study.

In response, EPA must expedite its listing procedures and, therefore, cannot grant extension requests unless due process has been hindered in some way or the Agency deems such extension is necessary. The Agency has responded to late comments through

File B.5

March 29, 1985 in order to accommodate as many interested parties as possible in expressing their views on the listing of sites on the NPL.

In the December 14, 1984 comment, Mr. Hall listed specific concerns regarding the listing of Pagel's Pit and stated his opinion that the Warzyn Engineering, Inc. study results should be examined prior to any final decision on listing the site. The commenter stated that Pagel's Pit has never been in violation of any Federal, state, or local environmental law or regulation. The League also commented that the Warzyn report results and the sites compliance with environmental laws should be considered prior to listing Pagel's Pit.

In response, the HRS evaluation of Pagel's Pit was based on data collected at, and in the immediate vicinity of the site. As explained above the Agency can only grant time extensions under certain conditions. In this case, the need for additional information on this site was not great enough to warrant a time extension. The concerns over the site apparent compliance with all environmental laws and regulations are commendable but are not relevant to scoring the site.

Single Plume Theory

The commenter questioned the scoring of the site based on an observed release rather than on route characteristics for they contend that analytical results support the findings of a single

plume originating from the Acme Solvent site, a site listed on the NPL. In the review of this site, Mr. Hall cites a document, E.C. Jordan Final Remedial Investigation Study for the Acme Solvent Superfund Site, in both draft and final forms. Both publications of this document, Mr. Hall states, conclude that differences in ground water composition under the two sites exist and that trans 1,2-dichloroethylene is a key chemical difference. Also reported in these documents is that the quantity of trans 1,2-dichloroethylene is greater under Pagel's Pit than it is under the Acme site. Cis 1,2-dichloroethylene, Mr. Hall explains is a biodegradation product of trichloroethylene that is often mistaken for trans 1,2-dichloroethylene because laboratories do not distinguish between the two isomers. Large quantities of trichloroethylene were found at the Acme Solvent site according to the E.C. Jordan document. The commenter deduced that the trans 1,2-trichloroethylene detected at Pagel's Pit is actually cis 1,2-dichloroethylene which has biodegraded over the last 25 years from trichloroethylene originated upgradient at the Acme Solvent site. A similar argument was explained by the commenter for 1,1-dichloroethane and its biodegradation product of 1,1,1-trichloroethane. Both trans 1,2-dichloroethylene and 1,1-dichloroethane Mr. Hall claimed are found in increased proportions downgradient from the Acme Solvent site, a source of trichloroethylene and 1,1,1-trichloroethane.

Mr. Hall cited as further support for the single plume theory the E.C. Jordan computer transport model results. He made this interpretation even though in the conclusion of both the draft and final versions of the report, a determination was made that separate plumes from Pagel's Pit and Acme Solvent is a more "plausible scenario for the development of a bimodal plume". The commenter expressed his belief that this conclusion was based on the lack of independent evidence that the observed plume is continuous between the two sites. Appendix H of the E.C. Jordan report was cited by Mr. Hall as presenting nine multivariable aquifer simulations, six of which modeled a continuous plume extending from Acme Solvent under Pagel's Pit. Mr. Hall stated that all the simulations had identified a plume which was generally continuous with portions of the plume under or headed toward the southeast portion of Pagel's Pit. He continued saying that the model was creditable since the same general concentration pattern depicted by the model was depicted in Figure 28 of the E.C. Jordan report, the actual plume configuration. The text of the draft E.C. Jordan report was cited by the commenter as stating that "on the basis of modeling results, it is very likely that a single plume emanating from the Acme site is responsible for the contaminant distribution shown in Figure 28." However, the commenter also cited from the text of the final E.C. Jordan¹⁹⁷⁴, "it is unlikely that a single plume emanating from the Acme site is responsible" for the contamination distribution

In addition, no attempt was made by the E.C. Jordan modeling to include Pagel's Pit as a contributor to groundwater contamination.

depicted in Figure 28. [✓] Mr. Hall stated that the model was somewhat flawed by its failure to take into account vertical migration.

The commenter's final argument in support of the single plume theory is that the local geohydrologic conditions lend themselves to migration of contaminants from the Acme Solvent site toward Pagel's Pit. Mr. Hall presented the theory that contaminants "from Acme Solvent move down into the bedrock and westward until they reach the more permeable materials beneath Pagel's Pit where they discharge upward." The investigations conducted thus far have not considered this contaminant pathway because the dolomite aquifer between the two sites have not been sampled Mr. Hall reasoned. He cited the volatile organic sampling results of the deeper monitoring wells as supporting his contaminant migration theory.

In response, the observed release was scored on arsenic, cadmium, and bis(2-ethyl hexyl)phthalate rather than on TCE biodegradation products. While it may be true that substances released into the ground water from Acme Solvent are biodegrading, this does not have an influence on the observed release determination at Pagel's Pit. The issue of concern is not whether there is one or multiple contamination plumes in the ground water but whether Pagel's Pit is a source of ground water contamination. As the commenter points out the E.C. Jordan report concludes that both sites are source of contamination. If the site is shown not to

In Appendix H of the
The report states " ⁵⁻⁵⁵ The influences of Pagel's Pit on groundwater flow patterns and recharge in its immediate vicinity is poorly understood. Thus for purposes of this model it was ignored." Therefore no simulations are available to ~~the~~ aid in determining if the observed contaminant distribution ^{is} better explained by two, overlapping plumes.

be a source of ground water contamination after further investigation by the Agency, the site will be delisted as discussed in Part VIII of the preamble 47 FR 58479.

Observed Release

Mr. Hall stated that the scoring of Pagel's Pit was incorrect and should have been based on route characteristics rather than an observed release of arsenic, cadmium, and bis(2-ethyl hexyl)phthalate. The commenter stated that, while arsenic and cadmium were detected in one well on the site's northern boundary, these same substances were detected in soils on the Acme Solvent site. He added that Bis(2-ethyl hexyl)phthalate detected in three wells around Pagel's Pit, was also detected at the Acme Solvent site. These three chemicals were attributed to the Pagel's Pit site based on leachate analysis and in the case of arsenic the deposition of arsenic waste. The commenter noted that some of the substances detected in the leachate were at lower concentrations in the leachate than in ground water sampling, that arsenic was detected at levels below the primary drinking water standards, and that not all of the substances detected in the leachate were detected in the ground water.

In response an observed release to ground water is scored when there is analytical evidence of a substance that can be attributed to a facility being released to the ground water at levels significantly higher levels than background. In this case, arsenic,

cadmium, and bis(2-ethyl hexyl) phthalate were detected in leachate from the site and in the ground water, and arsenic bearing wastes received by the facility (40, 55 gallon drums). Although these three substances were detected at the Acme Solvent Site, the ground water sampling results indicate a zone between the sites in which contamination of these substances does not appear. The sampling results indicate that both sites are sources of contamination.

In addition, the leachate sampling was used only to establish the site as a source of the contaminants. Concentrations of the substances in the leachate compared to the concentrations in the ground water is not relevant. The contaminant load affecting concentrations in the aquifer is much greater than that from a single leachate sample. Concentrations of the substances in leachate compared to standards such as the primary drinking water standards are irrelevant. As stated before the leachate sampling is used only to identify the site as a source of identified contaminants. Also irrelevant is the fact that only some of the substances detected in the leachate were detected in the ground water considered. Different substances are known to migrate at different rates based on a variety of geophysical and geochemical factors. Finally, the HRS does not rely on information from transport models nor knowledge of ground water gradient and mounding to score a site.

Route Characteristics

The commenter rescored the site based on route characteristics and the following values were assigned. Depth to aquifer of concern was assigned a value of 2, based on a depth slightly greater than 20 feet between refuse and the water table. Net precipitation was assigned a value of 2, based on 13.05 inches. A value of 2 was assigned to the permeability factor for 10^{-4} and 10^{-5} cm/sec. Physical state was assigned a 3 for liquids.

The commenter initially assigned a value of 0 to containment since the liner has not been proven to be leaking, but conceded that a value of 2 might be acceptable. Pagel's Pit is described by the commenter as having an "essentially non-permeable" compatible liner with an adequate leachate collection system. He states that the combination of the asphalt liner and cationic sealer create an "essentially non-permeable" condition. This is supported by the fact that no mounding beneath the site has been substantiated by factual evidence. However, he concedes that based on the worse case assumptions the liner could be defined as "moderately permeable compatible liner" and scored a 2.

In response, based on the above paragraphs, the observed release value was correctly assigned at this site and, therefore, neither route characteristics nor containment has been evaluated. However, the values assigned to the route characteristic factors appear to be accurate.

Hazardous Waste Quantity

In rescoring the site, two additional factors were pointed out as having been erroneously scored. Mr. Hall stated that the hazardous waste quantity should be reduced from a 6 to a 2 because 2611 drums of the 2737 drums cited in the HRS documentation were not received at the site. Ms. Lewis, of the League of Women Voters, also commented that the hazardous waste quantity factor value was high.

In response, the hazardous waste quantity factor has been revised to include the new information submitted by the commenter. The revision is based on quantities listed in supplemental permits for waste deposition at Pagel's Pit. Those permits identified in the comment as not having been received by the site were excluded from the tally while one additional permit identified by the commenter, attachment C, was included. The revised hazardous waste quantity is 1490 drums which scores a 5. All of the quantities listed in the following permit numbers were counted on a "one-time" deposition basis and not extrapolated to a yearly quantity: 74-72, 74-76, 74-93, 74-107, 74-1125, 74-126, 74-130, 74-134, 74-150, 74-152, 74-162, 74-163, 74-163, 75-65, and 75-239. A mathematical error was made in the original hazardous waste quantity which resulted in the equivalent of 61 drums not being counted.

Distance to Nearest Well/Population Served

The commenter stated that the value assigned to distance to nearest well/population served should be reduced because the population number used for scoring counted people using wells upgradient from the site. Also, the commenter stated that wells beyond Killbuck Creek should not be counted because the creek is a discontinuity.

In response, the population served includes residents as well as other individuals within a 3-mile radius of the hazardous substances, who regularly use the ground water from the aquifer of concern for drinking purposes. Because of the need to develop a nationally uniform scoring system that could be used to score a large number of sites with the data commonly available, the HRS does not specifically take into account such level of detail as flow gradients when determining the target population. This position is explained more fully in the preamble to the final National Contingency Plan at 47 FR 31190. The HRS utilizes a radius (distance of 3 miles or less) around the site when determining the distance to the nearest well in the contaminated aquifer and the population at risk due to (potential) contamination, provided that a discontinuity in the aquifer does not exist between the site and the well being scored for purposes of the HRS. In this case, a house count was done from the USGS, Rockford South Quadrangle, 1976. The residences north of the Kishwaukee River and west of the Killbuck

Creek were not included in the count because these two bodies of water appear to be discontinuities of the shallow aquifer. No revision was made to the distance to nearest well/population served.

Site Description

The commenter argued that, in revising the site package, the site description should be amended to state that no landfilling was conducted until July 17, 1972.

In response, based on information presented in the President of Winnebago Reclamation Services, Inc. affidavit the site description is amended to state that no landfilling was conducted until July 17, 1972.

The original migration score for this facility was 42.47.

Based on the changes noted above, the HRS score Pagel's Pit are:

Ground Water	70.41
Surface Water	0
Air	0
Total	40.70